

1.941

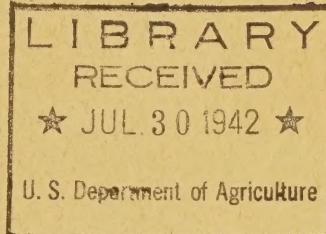
R3M52
Suppl.
cop.1

X
UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agriculture Economics and
Farm Security Administration Cooperating

1.941
R3M52
Suppl.
cop.1

MEN AND MACHINES IN THE NORTH DAKOTA HARVEST

(STATISTICAL SUPPLEMENT)



By

Robert M. Cullum, Social Science Analyst,
Farm Security Administration

Josiah C. Folsom, Associate Agricultural Economist,
Bureau of Agricultural Economics

and

Donald G. Hay, Sociologist,
Bureau of Agricultural Economics

Washington D. C.
June 1942

U S DEPT OF AGRICULTURE LIBRARY
DOCUMENTS
BAE-W-MESS
WASHINGTON D C



MEN AND MACHINES IN THE NORTH DAKOTA HARVEST
(STATISTICAL SUPPLEMENT)

Preface

These tables support the text of "Men and Machines in the North Dakota Harvest" issued by the Bureau of Agricultural Economics in April 1942 in mimeographed form.

The survey that formed the basis of that pamphlet related to farm practices and to laborers of the small grain harvest. The data were obtained principally by interviewing 1,500 farm operators and about 3,400 harvest laborers in North Dakota in the summer of 1938. To make a comparison with harvest practices in another State, 395 farm operators in Kansas were interviewed early in 1939 concerning their harvests in 1938.

DECEMBER 1940
The data concerning farm use of harvest laborers were obtained from farm operators, and those relating to individual laborers were given by all classes of harvest workers except farm operators. Six groups make up most of the harvest-labor supply in North Dakota: (1) farm operators, (2) members of their families, (3) regular hired men (hired by the year or season), (4) exchange laborers (neighbors or their men), (5) local hired harvest laborers (originating locally and hired for specific harvest jobs), and (6) transients or "floaters." The first three classes are occupants or residents of the farms. For the purposes of survey, local labor was defined as all labor (other than family, season, or exchange) resident within the county where interviewed or in one adjoining and a transient laborer was defined as one whose home was beyond an adjoining county.

The laborers were interviewed at work on farms, and at centers where they gather on their way into North Dakota seeking harvest work, or on their way out of the State afterwards.

All page references given in tables are to the text of "Men and Machines in the North Dakota Harvest."

Table 1 - Comparison of percentages of total small grain harvested and of total man days worked in the harvest in North Dakota, 1938, by method of harvest, and by counties ^{1/}

Method of harvest	Bottineau : Cass : Hettlinger : McLean : Stutsman : Walsh : Williams : All County : Counties ^{2/}
A. Percentage of total acreage	
Binder-thresh	77.7 75.5 33.6 51.6 82.4 73.0 71.7 68.9
Header-thresh	- - 29.4 7.4 8.8 - - 5.6
Header-thresh plus	- - 63.0 59.0 91.2 - - 74.5
binder-thresh	- - 22.3 24.5 36.6 40.8 8.8 27.0 28.3 25.4
Combine	- - 100.0 100.0 ^{3/} 100.0 ^{4/} 100.0 100.0 100.0 100.0 ^{2/}
All	100.0 100.0 100.0 ^{3/} 100.0 ^{4/} 100.0 100.0 100.0 100.0 ^{2/}
B. Percentage of total man days worked	
Binder-thresh	91.0 89.2 - - 89.5 90.7 -
Header-thresh plus	- - 82.5 80.4 96.1 - - 83.4
binder-thresh	- - 9.0 10.8 17.5 19.6 3.9 10.5 9.3 10.6
Combine	- - 100.0 100.0 100.0 100.0 100.0 100.0 100.0
All	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0

^{1/} See pages 8 and 60 (all page references are to the text "Men and Machines in the North Dakota Harvest").

^{2/} Burke County is included in the data for all counties.

^{3/} Includes 0.4 percent harvested by other methods.

^{4/} Includes 0.2 percent harvested by other methods.

^{5/} Includes 0.1 percent harvested by other methods.

Table 2.-Acreage of small grain harvested by specified methods
on 1,500 survey farms, North Dakota, 1938. 1/

Type of harvest machinery	County	Burke	Cass	Hettinger	McLean	Stutsman	Walsh	Williams	All Counties
A. Acres harvested									
(Acres)	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)
37,523	10,557	37,100	11,307	18,819	32,120	29,549	19,924	196,899	
0	0	0	9,879	2,696	3,412	0	0	15,987	
1,862	223	2,701	11,841	12,126	738	1,725	6,617	37,833	
Combine, swather, and pickup	8,926	0	9,354	495	2,785	2,675	9,195	1,258	34,688
Other	0	0	142	60	12	0	0	0	214
Total	48,311	10,730	49,155	33,664	36,486	38,957	40,469	27,799	285,621
B. Percentage of total acreage									
(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
77.7	97.9	75.5	33.6	51.6	82.4	73.0	71.7	68.9	
—	—	—	29.3	7.4	8.8	—	—	—	5.6
3.9	2.1	5.5	35.2	33.2	1.9	4.3	23.8	13.3	
18.4	—	19.0	1.5	7.6	6.9	22.7	4.5	12.1	
—	—	—	0.4	0.2	2/	—	—	—	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ See pages 8 and 60.

2/ Less than one-tenth of one percent.

Table 3.-Man days $\frac{1}{2}$ used per 100 acres of small grain harvested, and ratio of labor requirements of combine to binder-thresh methods, on sample farms in North Dakota, 1938 2/

Man days:		Bottineau:Burke:Cass:Hettinger:McLean:Stutsman:Walsh:Williams:All			Average size of crew		
County	County:County:County	(Days)	(Days)	(Days)	(Days)	(Days)	(Days)
Binder - thresh							
Binding	6.8	7.3	8.9	8.9	7.3	7.1	8.5
Shocking	6.8	7.0	8.6	7.7	7.6	6.8	7.9
Threshing	15.5	11.5	25.0	10.3	14.2	12.5	21.4
Total 2/	29.1	25.8	42.5	26.9	29.1	26.4	37.8
Header - thresh							
Heading	-	-	-	-	14.8	13.4	18.1
Total 2/	-	-	-	-	25.1	27.6	30.6
Swather - pickup							
Swathing	2.5	-	-	3.6	3.8 4/	5.5	2.7
Pickup	7.1	-	-	13.3	13.4 4/	9.7	8.9
Total 2/	9.6	-	-	16.9	17.2 4/	15.2	11.6
Direct combine 2/	10.6	-	-	11.5	9.5	9.2	2/ 12.4 2/
All combine methods 2/	9.8	-	-	15.8	10.0	10.3	11.3
Ratio of labor requirements of combine to binder-thresh methods	1/3.0	-	-	1/2.7	1/2.8	1/2.3	1/3.1
						1/4.1	1/2.8

1/ For average length of full working day in a particular county and harvest operation, see Table 27. Man-hour requirements per 100 acres may be calculated directly by multiplying the respective data of these two tables.

See pages 8 and 60.

2/ Including hauling grain from field to storage.
3/ This estimate of days and hours for this county and operation is of doubtful reliability because the number of reports was small.

4/ Since threshing of bound and headed grain was lumped together, the total labor use for the header-thresh method was computed by adding the rate for the header to the gross threshing rate. If there is an efficiency differentiation favoring threshing from the header stack over threshing bound grain, the data shown may be somewhat high for header-thresh, and correspondingly low for binder-thresh methods in McLean, and Stutsman Counties.

Table 4.—Average number of days ^{1/} worked in the North Dakota small grain harvest by types of labor living on the sample farms, by counties, 1938 ^{2/}

County	Farm operator	Farm family labor	Farm family labor	Regular hired men
	(Days)	(Days)	(Days)	(Days)
Bottineau	9.0	7.8	7.8	11.3
Cass	15.1	12.2	12.2	13.3
Hettinger	7.9	9.5	9.5	7.5
McLean	10.3	9.6	9.6	9.2
Stutsman	9.8	10.0	10.0	9.1
Walsh	10.1	9.2	9.2	10.3
Williams	10.9	10.0	10.0	11.6
Total	10.6	9.8	9.8	10.9

^{1/} For average length of working day, see Table 27.
^{2/} See page 9.

Table 5.—Average numbers of harvest workers per 100 farms living regularly on sample farms in North Dakota, 1938, by counties ^{1/}

County	Farm operators	Farm family laborers	Farm family men	Farm regular hired laborers	Farm regular hired men	Total
	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
Bottineau	93	52	9	93	85	11
Cass	96	50	32	96	84	52
Hettinger	97	61	16	97	82	25
McLean	96	44	15	96	65	18
Stutsman	98	50	21	98	80	28
Walsh	94	48	24	94	85	31
Williams	97	37	13	97	60	16
Total	96	48	19	96	77	27
						200

^{1/} See pages 9 and 13.

Table 6.—Percentage of specific harvest jobs held by certain types of labor on 1,500 survey farms, North Dakota, 1938 1/

Job	:By labor originating on the: :farm where the work was done: : : Farm :Regular:exchange: : Farm : family : hired : labor :operators: laborers: labor :			:By labor hired: : for harvest : : work only : :Local:Transient: : : : labor			(Percent)
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	
	63.2	17.9	6.7	4.2	6.5	1.5	100.0
	20.1	29.5	6.3	3.3	18.2	22.6	100.0
	64.1	23.5	2.6	8.5	1.3	-	100.0
Binder operator	10.9	53.9	10.9	12.8	5.5	-	100.0
Shocker	1.7	4.9	1.7	23.4	49.9	18.4	100.0
Header operator	2.2	3.6	2.0	9.6	51.7	30.9	100.0
Header barge worker	4.2	8.9	2.6	20.4	48.4	15.5	100.0
Bundle wagon driver	13.6	6.4	2.4	10.5	65.4	1.7	100.0
Field pitcher	18.3	2.8	2.8	15.8	58.0	2.3	100.0
Spike pitcher	22.3	8.1	2.3	22.4	43.6	1.3	100.0
Engineer	37.1	16.5	4.0	17.4	23.8	1.2	100.0
Separator operator	35.1	15.9	5.5	23.3	17.2	3.0	100.0
Truck driver	35.5	29.7	10.4	8.9	13.2	2.3	100.0
Tractor operator	23.9	22.0	10.1	12.8	22.9	8.3	100.0
Swather	43.6	14.8	9.1	11.4	19.2	1.9	100.0
Combine operator	48.8	16.3	7.0	11.6	14.0	2.3	100.0
Tractor and combine operator	33.3	19.5	7.5	10.1	25.3	3.8	100.0
All operations	19.9	13.8	4.2	15.9	33.3	12.4	100.0

1/ See pages 9 and 60.

Table 7.—Estimated distribution of labor in the small grain harvests of 1938 in specified counties of North Dakota: Man days worked, by source of labor

Bottineau : Cass : Hettinger : McLean : Stutsman : Walsh : Williams : All Class of labor : County : County : County : County : County : County : Counties		A. Man days worked					
(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
19,850	38,050	9,400	26,050	26,800	24,400	25,150	169,700
15,700	27,150	9,600	16,500	22,450	20,100	14,350	125,850
3,050	18,300	2,400	4,450	7,200	8,300	4,550	48,250
6,650	28,000	7,250	14,900	9,850	9,250	5,600	81,500
44,550	26,000	2,000	14,500	25,650	37,150	42,000	191,850
17,900	71,550	0	550	8,000	20,900	1,650	120,550
1,650	11,600	2,200	10,650	5,650	18,450	1,700	51,900

B. Percentages of county totals (Percent) (Percent) (Percent) (Percent) (Percent) (Percent) (Percent)	
By labor originating on the farm where the work was done	
- Farm operator	18.1
- Farm, family laborers	14.4
- Regular hired laborers	2.8
Total	35.3
By exchange labor	6.1
By other labor hired for harvest work only	40.7
- Local hired harvest	16.4
- Transient hired harvest	57.1
Total	1.5
Type not reported	100.0
By all labor	100.0

Table 8.—Proportions of harvest labor force formed by specified classes of workers
on 1,500 survey farms, North Dakota, 1938. ^{1/}

Class of labor	Bottineau:Burke:Cass:Hettinger:McLean:Stutsman:Walsh:Williams: All County:County:County:County:County:County:County:County (Percent)(Percent)(Percent)(Percent)(Percent)(Percent)(Percent)(Percent)
By labor originating on the farm where the work was done	
- Farm operators	8.3
- Farm family laborers	7.5
- Regular hired laborers	1.0
Total	16.8
By exchange labor	8.0
By other labor hired for harvest work only	
- Local hired harvest	56.8
- Transient hired harvest	18.4
Total	75.2
By all labor	100.0

^{1/} See page 9.

Table 9.—Average numbers of harvest tasks held by certain types
of labor on 1,500 survey farms in North Dakota, 1938. ^{1/}

Type of labor	Jobs (number)
Farm operator	2.3
Farm family labor	1.9
Regular hired labor	1.8
Exchange labor	1.1
Local harvest labor	1.1
Transient harvest labor	1.1
All labor	1.3

^{1/} See pages 9 and 60.

Table 10.—Methods used in small grain harvest, by type of farm
on 1,482 1/2 survey farms, North Dakota, 1938 2/

Method of harvest :	Type of farm			
	Crop (Number)	Livestock (Number)	Mixed (Number)	All farms (Number)
Binders-thresh	756	133	47	936
Header-thresh	28	5	0	33
Combine	140	5	5	150
Two or more methods	276	48	10	334
Total	1,200	191	62	1,453

1/ Twenty-nine of these farms did not harvest.
2/ See pages 10 and 57.

Table 11.—Condition of straw reported by 1,475 farm operators, North Dakota, 1938 1/

Condition of straw:	Bottineau	Burke	Cass	Hettinger	McLean	Stutsman	Walsh	Williams	All Counties
Stand									
- Very heavy	3	0	17	0	3	2	7	18	50
- Heavy	50	17	57	31	70	31	75	142	473
- Medium	121	31	102	86	99	87	130	19	675
- Light	23	8	24	89	27	89	5	3	268
- Combinations	3	0	0	0	0	1	5	0	9
Total	200	56	200	206	199	210	222	182	1,475
Standing	187	52	164	189	188	202	188	168	1,338
Down	6	3	27	16	9	8	8	4	81
Both	0	0	0	0	0	0	1	0	1
Total	193	55	191	205	197	210	197	172	1,420

1/ See page 11.

Table 12.—Estimate of man days required to harvest 100 acres of small grain by binder-thresh methods under varying straw conditions with horse and tractor power $\frac{1}{3}$, according to reports from 1,500 survey farms, North Dakota, 1938 2/

Power for binder:	Condition of straw:	Man days of work required in						All Counties
		County	County	County	County	County	County	
		Days	Days	Days	Days	Days	Days	Days
		(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
Horse	Very heavy	—	50.4	—	39.8	—	36.9	38.3
Horse	Heavy	30.1	45.3	38.2	32.2	28.1	40.7	31.6
Horse	Medium	27.4	27.1	24.2	26.7	25.5	36.9	27.3
Horse	Light	25.8	23.5	26.3	28.8	25.7	—	24.3
Tractor	Very heavy	—	51.9	—	40.2	—	37.8	39.5
Tractor	Heavy	31.8	27.9	46.8	29.3	32.6	43.0	34.9
Tractor	Medium	28.2	25.4	39.0	26.6	26.5	37.8	33.0
Tractor	Light	26.6	26.1	38.4	28.7	28.6	—	28.7

1/ The average crew on horse-powered binders was 1.0 men; on tractor-powered binders, 1.6 men. Family labor was utilized most for this work, and in many instances these were observed to include younger members.

2/ Some data were not calculated because too few reports were obtained from which to calculate reliable averages.

2/ See pages 11 and 12.

Table 13.—Length of working day in harvest, by operations, by type of labor,
and by counties, on 1,500 survey farms, North Dakota, 1938 ^{1/}

Harvest operation or type of labor	Bottineau County	Burke County	Cass County	Hettinger County	McLean County	Stutsman County	Walsh County	Williams County	All Counties
	(Hours)	(Hours)	(Hours)	(Hours)	(Hours)	(Hours)	(Hours)	(Hours)	(Hours)
Binding	10.7	10.7	10.5	9.9	10.3	10.4	10.7	10.3	10.4
Shocking	10.0	10.0	10.0	9.8	10.1	9.9	10.5	10.2	10.1
Threshing	10.9	10.5	10.6	10.0	10.7	10.7	11.4	10.9	10.8
Heading	—	—	—	9.9	10.6	10.3	—	—	10.1
Swathing	10.8	—	10.6	9.8	11.0	12.1	10.6	11.9	10.8
Pickup	9.8	—	9.9	8.0	9.5	11.6	9.9	9.7	9.8
Combining	8.2	10.7	9.5	10.0	9.2	8.7	9.5	9.7	9.5
All operations	10.7	10.5	10.4	9.9	10.4	10.6	11.1	10.6	10.6
Farm operator	10.5	10.7	10.4	9.8	10.2	10.4	10.8	10.2	10.3
Farm family labor	10.5	10.2	10.3	9.9	10.3	10.3	10.7	10.3	10.3
Regular hired labor	10.5	10.2	10.4	10.2	10.3	10.6	10.7	10.2	10.4
Exchange labor	10.8	10.3	10.4	9.9	10.7	10.6	11.3	10.3	10.5
Local hired harvest labor	10.9	10.6	10.5	10.5	10.5	10.7	11.2	10.9	10.8
Transient harvest labor	10.7	10.0	10.5	11.0	10.4	10.7	11.2	10.8	10.7
All types of labor	—	10.7	10.4	9.9	10.4	10.6	11.1	10.6	10.6

^{1/} See pages 12 and 26.

Table 14.—Use of labor in small grain harvest on farms of less than 175 and of more than 700 acres by method of harvest, North Dakota, 1938. ^{1/} ^{2/}

Method of harvest	Cases	Acres harvested	Man days of labor used	Average: by labor originating on the farm		
				Number	Percent	Percent
A. On farms of less than 175 acres						
				(Number)	(Percent)	(Percent)
Binder-thresh	163	73.1	12,147	77.7	75	4,378
Header-thresh	4	1.8	152	1.0	38	49
Combine	29	13.0	2,212	14.1	76	229
Two or more methods	16	7.2	1,130	7.2	71	341
No harvest	11	4.9	—	—	—	—
Total	223	100.0	15,641	100.0	74	4,997
B. On farms of more than 700 acres						
				(Number)	(Percent)	(Percent)
Binder-thresh	91	39.1	33,869	39.1	372	10,547
Header-thresh	7	3.0	1,155	1.3	165	258
Combine	38	16.3	16,029	18.5	422	1,593
Two or more methods	96	41.2	35,661	41.1	372	7,064
No harvest	1	.4	—	—	—	—
Total	233	100.0	86,714	100.0	374	19,467
						155

^{1/} 183,256 acres of small grains were harvested on the 996 farms of 175-699 acres.

^{2/} See page 12.

^{3/} Includes farm operators, farm family labor, regular hired labor, and exchange labor.

^{4/} Includes local hired harvest labor and transient harvest labor.

^{5/} 38.1 percent of this acreage was combined, and 61.9 percent bound and threshed.

^{6/} 47.6 percent of this acreage was combined, and 52.4 percent bound and threshed.

Table 15.—Work and travel of laborers in the small grain harvest of 1938 1/ 2/

Job	Average per job			Average between jobs		
	Jobs	Days without pay	Days with pay	Earnings	Cases	Days without work
(Number)	(Number)	(Number)	(Dollars)	(Number)	(Number)	(Dollars)
Shocking	535	1.2	6.6	15.29	288	6.2
Binder operator	21	1.0	7.7	17.05	10	3.8
Tractor driver	33	2.1	10.0	28.04	17	4.7
Field pitcher	32	1.5	8.7	18.55	2	6.0
Bundle wagon driver	176	2.5	7.9	20.98	34	5.2
Combine operator	28	2.6	13.0	42.65	17	9.5
Other	317	3.0	11.9	27.43	89	4.9
Total	1,142	1.9	8.6	20.70	457	5.9
						6.60

1/ The laborers were interviewed in North Dakota. The date relates to small grain harvest work in other States as well as in North Dakota.

2/ See page 22.

Table 16.—Harvest work and travel of 316 transient harvest laborers leaving the State at the end of the wheat harvest of North Dakota, 1938 1/ 2/

Numbers of harvest jobs held	On harvest jobs			Between harvest jobs		
	Laborers	Average days on all jobs	Average : Laborers : Average days on all jobs	With pay	Earnings	Average : Laborers : Average days on all jobs
(Number)	(Number)	(Number)	(Number)	(Dollars)	(Number)	(Number)
One	155	4.2	13.3	34.55	135	9.4
Two	103	4.8	19.7	49.42	76	19.0
Three	42	5.9	24.0	63.44	32	25.0
Four	12	3.6	25.2	73.28	6	36.8
Five	4	4.5	21.4	56.65	2	7.0
All jobs	316	4.6	17.4	45.02	251	14.9
						14.39

1/ This table covers all the laborers' harvest work in 1938 in other States as well as in North Dakota.

2/ See pages 22-3.

Table 17.—Average wage rates received by wage laborers in the harvest, by counties, and by jobs, North Dakota, 1938. 1/

County or job	Unit of wage payment					
	Per hour		Per day		Per month	
	Cases	Average	Cases	Average	Cases	Average
A. By counties 2/						
	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)
Bottineau	26	0.28	150	2.87	2	36.25
Burke	0	-	30	2.57	1	35.00
Cass	18	.26	313	2.25	18	31.11
Hettinger	0	-	44	1.94	11	32.00
McLean	0	-	39	2.10	1	20.00
Stutsman	3	.25	69	2.01	14	29.29
Traill	2	.30	72	2.61	0	-
Walsh	26	.31	158	2.94	11	42.91
Total	75	.29	875	2.48	58	33.13
B. By jobs 3/						
Binder operator	3	0.27	51	2.28	9	29.44
Shocking 4/	69	.28	796	2.44	20	29.30
Tractor operator	3	.30	66	2.57	5	36.00
Field pitcher	11	.28	30	2.58	8	29.00
Bundle wagon driver	73	.29	150	2.71	1	40.00
Combine operator	3	.32	54	3.47	0	-
Miscellaneous	86	.30	375	2.52	38	32.66
Total	248	.29	1,522	2.53	81	31.41

1/ See pages 24 and 60.

2/ Includes only jobs of laborers interviewed on farms; total, 1,008.

3/ Includes not only jobs of laborers interviewed on farms, but also of transients interviewed elsewhere; total, 1,851.

4/ Thirty-six cases of shocking averaging 22 cents per acre not shown.

Table 18.-Homes of 1,237 out-of-State laborers
in the North Dakota harvest of 1938 1/

State	Residence status		Location of home		of laborer in home		Total laborers
	In a town	In a city	On a village	farm	Local location	Transient	
	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
<u>"South" of North Dakota</u>							
-Texas	9	6	6	17	4	21	
-Kansas	6	4	10	14	6	20	
-Missouri	19	9	11	24	15	39	
-Nebraska	10	5	14	15	14	29	
-Iowa	22	20	52	69	25	94	
-South Dakota	8	6	21	26	9	35	
<u>"East" of North Dakota</u>							
-Michigan	22	4	6	20	12	32	
-Illinois	51	6	14	47	24	71	
-Wisconsin	67	49	83	140	59	199	
-Minnesota 4/	202	100	201	339	164	503	
<u>"West" of North Dakota</u>							
-Montana 4/	9	5	7	14	7	21	
-Washington	22	3	3	18	10	28	
-California	22	3	0	14	11	25	
<u>Other</u>	<u>69</u>	<u>21</u>	<u>30</u>	<u>51</u>	<u>69</u>	<u>120</u>	
<u>Total</u>	<u>538</u>	<u>241</u>	<u>458</u>	<u>808</u>	<u>429</u>	<u>1,237</u>	

1/ See page 38.

2/ Local residents considered themselves as having permanent homes in their localities.

3/ Transients stated that they did not have permanent homes in their most usual places of residence.

4/ Nearly all of these laborers were transients according to definition, but a few had homes in Minnesota or Montana in counties adjoining those in which they were interviewed in North Dakota.

Table 19.-Ages of 3,373 harvest laborers interviewed, by type of labor, North Dakota, 1938. 1/

Age in years			Type of labor						Total	
			Farm family		Regular hired		Local hired harvest			
			Males (Number)	Females (Percent)	Percent of total laborers	Percent of total laborers	Percent of total laborers	Percent of total laborers		
Under 16	201	22.9	30	18.9	7	5.0	28	4.5	3	
17-20	340	38.6	54	34.0	19	13.6	161	25.9	13	
21-25	195	22.2	17	10.7	34	24.3	135	21.7	12	
26-30	82	9.3	17	10.7	24	17.1	75	12.1	24	
31-35	34	3.9	12	7.5	17	12.1	53	8.5	23	
36-40	8	.9	9	5.7	4	2.9	38	6.1	8	
41-50	4	.5	12	7.5	18	12.9	71	11.4	18	
51-60	5	.6	5	3.1	7	5.0	50	8.0	9	
Over 60	10	1.1	3	1.9	10	7.1	11	1.8	7	
All laborers	879	100.0	159	100.0	140	100.0	622	100.0	117	
									100.0	
									3,373	
									100.0	

1/ See page 39.

Table 20.-General types of employment of 1,904 harvest laborers interviewed in North Dakota, 1938, by type of labor, for the 18-month period from January 1, 1937 to June 30, 1938. 1/

Type of labor in the harvest	A. Number of workers			B. Percentage of total		
	(Number)	(Number)	(Number)	(Percent)	(Percent)	(Percent)
Regular hired	88	31	3	72.1	25.4	2.5
Local hired harvest	254	157	120	47.8	29.6	22.6
Transient hired harvest	375	471	405	30.0	37.6	32.4

Regular hired

Local hired harvest

Transient hired harvest

1/ See page 40.

Table 21.-Primary occupations of 1904 harvest laborers interviewed in North Dakota, 1938, by type of labor, for the 18-month period from January 1, 1937 to June 30, 1938. 1/

Type of labor	A. Numbers of laborers			B. Percentages of total		
	(Number)	(Number)	(Number)	(Percent)	(Percent)	(Percent)
Regular hired	104	5	0	85.3	4.1	0.0
Local hired harvest	280	116	20	52.7	21.8	2.1
Transient hired harvest	544	393	32	43.5	31.4	2.6

Regular hired

Local hired harvest

Transient hired harvest

1/ See page 40.

Table 22.—Employment and money earnings of 1904 harvest laborers interviewed in North Dakota, 1938, by type of labor, for the 18-month period from January 1, 1937 to June 30, 1938. 1/

Type of work	Average months of employment								
	Total		private		All work		Average		
	Average		and		with months of		Average		
	Laborers	number	Private	Relief	relief	with	out	unemploy	money
reporting	of	jobs	work	work	work	2	board	board	ment
									earnings
A. By 122 regular hired laborers									
	(Number)	(Number)	(Months)	(Months)	(Months)	(Months)	(Months)	(Months)	(Dollars)
Farm labor only	75	2.7	16.4	0.0	16.4	15.9	0.5	1.6	388 2/
Farm labor usually, and common labor occasionally	15	4.5	14.4	2.0	16.4	14.9	1.5	1.6	445 3/
All jobs 4/	122	3.2	15.4	0.7	16.1	13.8	2.3	1.9	467 3/
B. By 531 local hired harvest laborers									
Farm labor only	152	3.4	13.4	0.0	13.4	12.8	.6	4.7	236 2/
Farm labor usually, and common labor occasionally	52	5.3	11.5	1.3	12.8	10.0	2.8	5.2	423 2/
Common labor usually, and farm labor occasionally	42	4.0	6.0	7.2	13.2	4.9	8.3	4.8	533 2/
Common labor only	52	1.5	4.3	10.4	14.7	3.1	11.6	3.3	635
Semi-skilled only	11	1.4	12.4	4.1	16.5	11.4	5.1	1.5	639
Skilled only	9	1.6	10.6	5.8	16.4	0.0	16.4	1.6	1,080
All jobs 4/	531	3.3	12.1	2.2	14.3	8.4	5.9	3.7	363
C. By 1,251 transient hired harvest laborers									
Farm labor only	315	3.0	13.0	0.0	13.0	12.2	.8	5.0	281 2/
Farm labor usually, and common labor occasionally	134	4.8	11.2	.8	12.0	10.1	1.9	6.0	362 2/
Common labor usually, and farm labor occasionally	144	4.2	8.4	2.5	10.9	5.4	5.5	7.1	474 2/
Common labor only	137	1.9	8.1	2.8	10.9	2.7	8.2	7.1	580
Semi-skilled only	55	1.5	11.2	1.0	12.2	5.1	7.1	5.8	957
Skilled only	29	1.2	9.5	1.8	11.3	2.3	9.0	6.7	1,148
All jobs 4/	1,251	3.3	11.4	1.0	12.4	7.2	5.2	5.6	502

1/ See pages 40-42.

2/ Includes a very small amount of nonrelief public employment.

3/ Adding the values of the perquisites which are usually given to farm laborers would bring their total earnings to levels more nearly those of other common laborers.

4/ Includes types of work not specified.

Table 23. - Jobs for wages held by 1,904 harvest laborers interviewed in North Dakota, 1938, by type of labor, 1/ for the 18 month period from January 1, 1937, to June 30, 1938. 2/

Type of work	Jobs held						Average monthly cash earnings 3/ while working
	Number	Percent of total	Average times held	Average months held	Total with board	with board	
A. 122 regular hired laborers							
	(Number)	(Percent)	(Number)	(Months)	(Months)	(Dollars)	
Farm operators	6	3.5	1.3	12.2	9.2	19.34	
Farm laborers	116	67.8	2.7	13.7	13.0	24.09	
Wholesale and retail dealers, managers, professionals	0	—	—	—	—	—	
Clerks	1	.6	1.0	1.0	0	75.00	
Skilled work	5	2.9	1.0	5.6	4.8	42.50	
Semi-skilled work							
-Manufacturing	1	.6	1.0	5.0	0	110.00	
-Other	7	4.1	1.4	4.9	2.5	76.53	
Common labor							
-Factory or building	1	.6	1.0	5.0	0	70.00	
-Other	24	14.0	1.3	4.6	2.4	38.26	
Servants	1	.6	1.0	3.0	0	66.67	
"Jack of all trades"	0	—	—	—	—	—	
Students	9	5.3	1.9	13.0	—	—	
All jobs	171	100.0	2.3	11.5	9.9	26.48	4/
B. 531 local hired harvest laborers							
	(Number)	(Percent)	(Number)	(Months)	(Months)	(Dollars)	
Farm operators	45	5.4	1.1	16.0	15.9	4.56	
Farm laborers	372	45.0	2.8	8.7	8.2	21.11	
Wholesale and retail dealers, managers, professionals	3	.4	1.8	9.7	0	103.41	
Clerks	24	2.9	1.2	6.8	2.1	76.28	
Skilled work	34	4.1	1.4	7.7	.4	72.71	
Semi-skilled work							
-Manufacturing	0	—	—	—	—	—	
-Other	37	4.5	1.4	8.3	4.3	45.30	
Common labor							
-Factory or building	4	.5	1.3	3.5	0	64.64	
-Other	188	22.7	1.6	8.2	2.2	42.81	
Servants	20	2.4	1.4	6.4	4.3	39.49	
"Jack of all trades"	2	.2	3.5	3.2	.5	65.69	
Students	98	11.9	1.7	12.2	—	—	
All jobs	827	100.0	2.1	9.2	5.4	30.01	4/
C. 1,251 transient hired harvest laborers							
	(Number)	(Percent)	(Number)	(Months)	(Months)	(Dollars)	
Farm operators	30	1.5	1.2	13.2	11.2	10.76	
Farm laborers	828	40.9	2.7	8.1	7.5	24.22	
Wholesale and retail dealers, managers, professionals	19	1.0	1.4	9.8	2.2	76.93	
Clerks	49	2.4	1.4	7.0	1.6	50.41	
Skilled work	112	5.5	1.3	7.4	1.1	113.75	
Semi-skilled work							
-Manufacturing	26	1.3	1.4	7.8	.9	100.23	
-Other	167	8.3	1.5	7.2	2.7	71.05	
Common labor							
-Factory or building	40	2.0	1.3	5.4	.1	72.68	
-Other	568	28.1	1.8	6.8	2.3	49.18	
Servants	68	3.4	1.3	6.0	3.1	52.70	
"Jack of all trades"	23	1.1	3.2	4.0	1.8	47.18	
Students	92	4.5	1.7	11.9	1.8	—	
All jobs	2,022	100.0	2.1	7.7	4.4	43.66	4/

1/ Farm family laborers and exchange laborers so seldom did wage work that their data were not tabulated.

2/ See pages 40-42.

2/ Adding the values of the perquisites which are usually given to farm laborers would bring their total earnings to levels more nearly those of other common laborers.

4/ This average is for wage workers only; it excludes students.

Table 24.—Education and usual job of 3,285 harvest laborers,
North Dakota, 1938 1/

Usual job	Grade or year completed in						Total 4	
	Grammar School		High School		College			
	1-3	4-6	7-8	9-10	11-12	1		
Agriculture	41	215	1,224	230	314	28	15	
Forestry	1	14	33	4	5	0	0	
Manufacturing, fabricating	2	2	6	8	25	0	1	
Mechanic, artisan	4	5	60	24	41	6	2	
Transportation, communication	1	9	47	26	36	5	0	
Trade, clerical	.2	4	21	14	32	4	3	
Domestic servant	2	19	55	5	9	0	0	
Odd jobs	3	16	63	23	34	1	2	
Miscellaneous industries <u>2/</u>	1	9	29	12	17	8	2	
Student	7	48	125	77	99	27	14	
All industries	64	341	1,663	423	612	79	44	
							3,285	

1/ See page 42.

2/ Includes professional service, mining, personal service, entertainment, relief employment, and miscellaneous.

1. . .

Table 25. - Education of 3,300 harvest laborers by type of labor, North Dakota, 1938 1/

Amount of formal education	Type of labor						Total (Number)
	Farm family		Regular	Local hired	Exchange	Transient hired	
	Male	Female	hired	harvest	harvest	harvest	
Grammar school							
1-3 years	10	3	5	10	4	31	63
4-6 years	74	23	17	71	20	133	338
7-8 years	476	81	85	323	68	642	1,675
High school							
9-10 years	112	21	15	76	7	189	420
11-12 years	146	23	13	105	11	322	620
College							
1 year	25	1	1	17	3	31	78
2 years	15	4	1	6	2	18	46
3 years	8	0	0	3	0	20	31
4 years	12	0	0	5	0	12	29
Short course 2/	6	0	0	6	0	10	22
Business college 2/	5	0	1	1	4	6	17
Total	878	156	137	616	115	1,398	3,300

1/ See page 45.

2/ Persons who attended business college or took a short course are also counted above according to the extent of their education in grammar or high schools or colleges.

Table 26.—Skilled trades or professions learned by 3,297
North Dakota small grain harvest laborers, by type of labor 1/ 2/

Industry	Type of labor						Total
	Farm family		Regular	Local	Exchange	Transient	
	Male	Female	Hired	Hired	Hired	Hired	
				Harvest		Harvest	
	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
Agriculture 1/	0	0	0	0	0	6	6
Forestry	1	0	0	0	0	10	11
Manufacturing	1	0	0	4	1	42	48
Artisan	33	1	18	72	8	219	351
Transportation, communication	5	0	2	11	0	61	79
Trade, clerical	5	0	3	15	3	48	74
Professional service	6	6	0	5	1	7	25
Mining	1	0	0	2	0	13	16
Personal and domestic service	1	3	0	0	0	10	14
Miscellaneous 2/	2	0	0	3	0	12	17
None	813	148	115	500	103	977	2,656
Total	868	158	138	612	116	1,405	3,297

1/ While some persons reported special training in agriculture beyond the eighth grade, it is clear that they did not consider that they had learned a skilled trade.

2/ See page 43.

3/ Includes entertainment.

Table 27. - Usual jobs of 3,320 North Dakota small grain harvest laborers, by type of labor ^{1/}

Usual industry	Type of labor					
	Farm family		Regalar	Local hired	Exchange	Transient hired
	Male	Female	hired	harvest	harvest	Total
(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
Agriculture	631	5	124	427	111	806
Forestry	0	0	0	2	0	2,104
Manufacturing	1	0	1	0	0	56
Mechanical, artisan	5	1	3	23	0	47
Transportation, communication	4	0	1	22	0	145
Trade, clerical	2	0	2	23	0	129
Domestic service	0	94	0	0	0	86
Professional service	5	5	0	3	1	95
Mining	0	0	0	2	0	20
Student	227	52	8	73	4	27
Odd jobs	0	0	1	26	0	418
Miscellaneous ^{2/}	5	0	0	19	1	146
						47
Total	880	157	140	620	117	1,406
						3,320

^{1/} See page 44.

^{2/} Includes relief employment, personal service, entertainment, other.

Table 28. - Marital status of 3,333 harvest laborers, by type of labor, North Dakota,
 1938 1/

Marital status	Type of labor						Total harvest (Number)	
	Farm family		Local hired		Exchange			
	Male	Female	hired	harvest	hired	harvest		
Single	804	103	113	471	44	1,150	2,685	
Married	64	53	21	132	71	164	505	
Widowed	7	2	3	10	2	38	62	
Separated or divorced	4	0	2	13	0	62	81	
Total	879	158	159	626	117	1,414	3,333	

1/ See page 49.

Table 29. - 3,299 harvest laborers having specified numbers of dependents, by type of labor, North Dakota, 1938. 1/

Number of dependents	Type of labor						Total	
	Farm family		Local hired		Transient hired			
	Male	Female	hired	harvest	Exchange	harvest		
(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	
None	781	138	102	419	39	1,041	2,520	
One	28	1	10	55	13	139	246	
Two	35	2	14	54	18	104	227	
Three	14	2	6	22	17	51	112	
Four	2	3	5	20	10	29	69	
Five	0	3	0	17	6	23	49	
Six	1	3	1	7	2	11	25	
Seven	1	0	0	12	1	5	19	
Eight or more	2	2	0	9	11	8	32	
Total cases	864	154	138	615	117	1,411	3,299	

Number of dependents	Type of labor						Total	
Farm family		Local hired		Transient hired				
Male	Female	hired	harvest	Exchange	harvest			
(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	
- Total	182	77	82	606	297	910	2,154	
- Average per laborer having	2.19	4.81	2.27	3.09	3.80	2.46	2.77	

1/ See page 49.

Table 30. - Participation of 3,319 North Dakota harvest laborers in selected community activities in 12 months before interview, by type of labor. 1/

Organization or event	Type of labor						Transient hired harvest While traveling	
	Farm family		Regular	Local	Exchange			
	Male	Female	hired	hired	At home			
			hired	hired	At home			
A. Numbers of laborers reporting								
(Number) (Number) (Number) (Number) (Number) (Number) (Number) (Number)								
Total laborers reporting	858	154	137	611	112	1,447	1,446	
B. Numbers attending								
None	13	1	17	40	4	214	851	
Farmer organization meetings	249	11	22	108	36	168	14	
Local, county, or state fairs	362	59	54	229	34	518	122	
Religious meetings	576	123	71	349	65	753	170	
Community entertainments	571	92	64	301	49	539	94	
Ball games and other sports	571	52	63	340	47	702	174	
Movies, circus, carnivals	651	94	85	416	61	992	386	
Visits to relatives and friends	355	72	48	200	49	419	110	
C. Percentages of laborers attending								
(Percent) (Percent) (Percent) (Percent) (Percent) (Percent) (Percent) (Percent)								
None	1.5	0.6	12.4	6.5	3.6	14.8	58.9	
Farmer organization meetings	29.0	7.1	16.1	17.7	32.1	11.6	1.0	
Local, county or state fairs	42.2	38.3	39.4	37.5	30.4	35.8	8.4	
Religious meetings	67.2	79.9	51.8	57.1	58.0	52.0	11.8	
Community entertainments	66.6	59.7	46.7	49.3	43.8	37.3	6.5	
Ball games and other sports	66.6	33.8	46.0	55.7	42.0	48.5	12.0	
Movies, circus, carnivals	75.9	61.0	62.0	68.1	54.5	68.6	26.7	
Visits to relatives and friends	41.4	46.8	35.0	32.7	43.8	29.0	7.6	
D. Average numbers of times attending in 12 months								
(Number) (Number) (Number) (Number) (Number) (Number) (Number) (Number)								
Farm organization meetings	6.1	7.9	5.0	4.5	5.8	3.8	4.0	
Local, county, or state fairs	1.3	1.3	1.3	1.3	1.3	1.5	1.3	
Religious meetings	27.5	36.2	19.8	25.9	24.7	23.4	10.3	
Community entertainment	5.9	4.0	5.3	7.3	5.7	6.8	3.9	
Ball games and other sports	10.0	7.8	8.0	12.4	7.6	15.6	7.5	
Movies, circus, carnivals	15.9	8.0	17.8	22.2	8.5	28.5	13.8	
Visits to relatives and friends	7.9	6.0	7.4	6.9	8.3	4.9	2.7	

1/ See pages 50-53.

Table 31. - Their greatest problems, as designated by 2,238 North Dakota harvest laborers (by type of labor) ^{1/}

Problem	Type of labor						Total (Number)	
	Farm family - Regular		Local hired		Exchange			
	Male	Female	hired	harvest	hired	harvest		
Finding steady work	114	3	19	188	8	685	1,017	
Working hours and wages	51	12	24	81	17	160	345	
Better crops and crop prices	141	23	16	49	51	32	312	
Getting an education	74	8	0	24	2	16	124	
Displacement of labor by machinery	2	0	1	10	0	54	67	
Choosing vocation and getting established	31	0	8	18	1	34	92	
Needed change in relief measures	3	1	1	3	0	9	17	
Lack of old age security	0	1	2	6	0	26	35	
Other	9	2	6	14	2	61	94	
None	29	3	13	22	5	63	135	
Total	454	53	90	415	86	1,140	2,238	

^{1/} See pages 53-6.

Table 32. - North Dakota harvest laborers' opinions of governmental action most needed for their welfare, by type of labor (1,807 interviewed) 1/

Governmental action needed	Type of labor			Total
	Farm family		Local hired; Exchange	
	Male	Female	Transient hired : harvest	
(Number)	(Number)	(Number)	(Number)	(Number)
Improvement or increase of-				
-Financial security for farmers	145	18	75	52
-Working conditions	13	6	39	131
-Relief work	124	11	12	186
-Rehabilitation work	26	1	34	50
-Public employment service	3	0	4	6
-Rural education	5	0	0	0
-Social security	12	2	25	73
Reduction of-				
-Relief work	7	2	1	46
-Rehabilitation work	1	1	0	1
-Use of labor-saving machinery	5	0	3	3
Changes in the economic system	3	0	1	26
Miscellaneous	33	1	11	49
None	42	3	10	110
				189
				229
Total	419	45	75	853
				1,807

Table 33. - Size distribution of farms in North Dakota,
according to the 1935 census, and of 1,500
farms surveyed in 1938 1/

Sizes of farms (Acres)	Percentage of total in	
	State, 1935 (Percent)	Survey
		farms, 1938 (Percent)
Under 50	4.0	0.7
50 - 139	3.3	1.8
140 - 174	14.8	14.3
175 - 259	6.7	7.7
260 - 379	24.1	26.1
380 - 499	17.4	18.4
500 - 699	13.8	14.1
700 - 999	9.7	10.5
1,000 and over	6.2	6.3
Unknown	0.0	0.1
Total	100.0	100.0

1/ See page 57.

Table 34. - Acreage of small grains harvested on 395 farms surveyed in Kansas, 1938 1/

County	Farms in survey		Acres of small grain harvested		Average per farm harvesting (Acres)
	Total	Average size	Total	Acres	
(Number)	(Acres)	(Acres)	(Acres)		
Barton	43	372	10,742		250
Gray	52	721	19,504		375
Harper	64	420	18,374		287
Logan	47	2/	625	8,301	189
Marion	54	227	7,327		136
Ottawa	45	278	7,554		168
Reno	35	422	11,075		316
Roos	55	3/	491	11,520	217
Total	395	447	94,397		242

1/ See page 57.

2/ Of these, 3 farms did not harvest.

3/ Of these, 2 farms did not harvest.

Table 35. - Number of 1,500 survey farms using specified types of harvest machinery, North Dakota, 1938 1/

Type of harvest machinery	Number of survey farms by county									
	Bottineau	Burke	Cass	Hettinger	McLean	Stutsman	Welsh	Williams	All County	Counties
Binders - thresh	162	54	149	55	79	160	163	129	951	33
Header - thresh	0	0	0	26	3	4	0	0		
Combine and										
swather-pickup	16	0	14	38	30	3	28	22	151	336
Two or more types	23	3	38	78	83	42	36	33		336
No harvest in 1938	0	1	0	14	6	7	0	1	29	
Total	201	58	201	211	201	216	227	185	1,500	

1/ See page 57.

Table 36. - Numbers of North Dakota harvest laborers interviewed by type of labor, 1938 1/

Place and time of interview	Type of labor								
	Farm Family		Male	Female	Regular	Local hired	Exchange	hired har- vest	Transient
	Number	Number	Number	Number	Number	Number	Number	Number	
<u>Interviewed on farms</u>									
Bottineau County	83	0	0	81	0	0	67	231	
Burke County	56	0	0	30	0	0	0	86	
Cass County	68	0	47	63	0	0	170	348	
Hettinger County	206	80	0	68	38	0	0	392	
McLean County	130	0	19	63	0	0	0	212	
Stutsman County	124	40	25	50	0	0	21	260	
Walsh County	121	0	20	74	0	0	83	298	
Williams County	93	0	0	66	22	0	0	181	
<u>Interviewed off farms 2/</u>									
Local hired harvest									
-Early 3/	0	0	0	37	0	0	0	37	
-Late 4/	0	0	0	34	0	0	0	34	
Transient hired harvest									
-Early 3/	0	0	0	0	0	0	737	737	
-Late 4/	0	0	0	0	0	0	335	335	
Unclassified 5/	0	39	29	62	57	62	0	249	
Total	381	159	140	628	117	1,475	3,400		

1/ See page 57.

2/ Interviewed at points where transients gather, such as Fargo, Jamestown, Grand Forks, Rugby, and Minot.

3/ Interviewed before August 15.

4/ Interviewed after August 15.

5/ The unclassified consisted of small groups from various counties which were combined here for purposes of tabulation.

Table 37. - Estimated 1/ distribution of labor in the small grain harvest of 1938 in specified counties in North Dakota: Man-days worked, by harvesting operation.

Harvesting operation	Bottineau : County	Cass : County	Heettinger : County	McLean : County	Stutsman : County	Walsh : County	Williams : County	All Counties
A. Man-days worked								
	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
Binding	23,450	41,450	4,350	15,450	24,250	27,800	19,700	156,950
Shocking	23,450	40,100	4,400	16,300	23,300	25,850	20,000	153,400
Threshing	52,700	115,150	10,650	34,600	47,350	70,250	46,450	377,150
Heading	0	0	7,200	4,150	6,600	0	0	17,950
Swathing	2,050	4,250	100	1,700	800	3,350	600	12,850
Pickup	5,950	15,800	300	3,150	2,600	8,900	1,500	38,200
Combining	1,750	3,900	5,350	12,250	700	2,400	6,750	33,100
Total	109,350	220,650	32,850	87,600	105,600	138,550	95,000	789,600
B. Percentages of county totals								
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
Binding	21.4	18.8	14.8	17.6	23.0	20.1	20.7	19.9
Shocking	21.4	18.2	13.4	18.6	22.1	18.7	21.1	19.4
Threshing	48.2	52.2	32.4	39.5	44.8	50.7	48.9	47.8
Heading	0.0	0.0	21.9	4.7	6.2	0.0	0.0	2.2
Swathing	1.9	1.9	3	2.0	.7	2.4	.6	1.6
Pickup	5.5	7.1	9	3.6	2.5	6.4	1.6	4.8
Combining	1.6	1.8	16.3	14.0	.7	1.7	7.1	4.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 38. - Estimated distribution of labor in the small grain harvest of 1938 in North Dakota:
Man-days worked, by source of labor and by job. 1/

Class of labor	Binding	Shocking	Threshing	Heading	Swathing	Pickup	Combining	All jobs
A. Number Man-days of labor								
	(Number)							
Farm operator	345,700	85,850	129,000	19,300	12,050	40,150	46,550	678,100
Farm family labor	135,950	175,100	110,250	25,600	8,750	23,400	24,500	503,550
Regular hired labor	52,400	40,700	49,350	4,500	7,600	24,250	14,000	192,800
Exchange labor	15,850	14,600	262,300	5,150	1,650	9,000	17,550	326,100
Local hired harvest labor	39,600	102,900	564,500	2,200	9,900	28,750	19,300	767,150
Transient harvest labor	9,950	164,850	285,750	4,300	4,450	12,900	4,300	486,500
Unclassified	28,250	29,450	107,100	10,600	7,100	14,600	6,400	203,500
Total	627,700	613,450	1,508,250	71,650	51,500	153,050	132,600	3,158,200
B. Percentage of total man-days by source of labor								
	(Percent)							
Farm operator	55.1	14.0	8.6	26.9	23.4	26.2	35.1	21.5
Farm family labor	21.7	28.5	7.3	35.7	17.0	15.3	18.5	15.9
Regular hired labor	8.3	6.6	3.3	6.3	14.8	15.9	10.6	6.1
Exchange labor	2.5	2.4	17.4	7.2	3.2	5.9	13.2	10.3
Local hired harvest labor	6.3	16.8	37.4	3.1	19.2	18.8	14.6	24.3
Transient harvest labor	1.6	26.9	18.9	6.0	8.6	8.4	3.2	15.4
Unclassified	4.5	4.8	7.1	14.8	13.8	9.5	4.8	6.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
C. Percentage of total man-days by jobs								
	(Percent)							
Farm operator	50.9	12.7	19.0	2.8	1.8	5.9	6.9	100.0
Farm family labor	27.0	34.8	21.9	5.1	1.7	4.6	4.9	100.0
Regular hired labor	27.2	21.1	25.6	2.3	3.9	12.6	7.3	100.0
Exchange labor	4.9	4.5	80.3	1.6	.5	2.8	5.4	100.0
Local hired harvest labor	5.2	13.4	73.5	.3	1.3	3.8	2.5	100.0
Transient harvest labor	2.0	33.9	58.7	.9	.9	2.7	.9	100.0
Unclassified	13.9	14.5	52.6	5.2	3.5	7.2	3.1	100.0
Total	19.9	19.4	47.8	2.3	1.6	4.8	4.2	100.0

1/ See page 99 for basis of estimate.

Table 39. - Man-days required for harvesting small grain by specified methods on 395 farms 2/ in Kansas, 1938 3/

Method of harvesting	Farms using method	Acreage harvested by method	Man-days of labor required to harvest 4/	Man-days for 100 acres

	A. Acres and man-days		
	(Number)	(Acres)	(Man-days)
Combine	336	79,708	8,071
Binder-thresh	177	6,057	3,133
Header-thresh	29	2,484	714
All	5/	88,249	11,923
			13.5

	B. Percentages of total		
Combine	85.1	90.3	67.7
Binder-thresh	44.3	6.9	26.3
Header-thresh	7.3	2.8	6.0
All	—	100.0	100.0
			—

1/ The average length of the man-day was as follows: binding or shocking, 10.5 hours; heading, 10.2 hours; threshing, 9.3 hours; combining, 10.8 hours.

2/ Farms combining only 181
binding only 13
heading only 12
using more than one method 184
not harvesting 5

3/ See page 60.

4/ Average size of crews: Combine, 3.0; binder, 1.9; shocking, 1.8; heading, 4.3; threshing, 1.9.

5/ No total is given for two reasons: in some cases, data were not usable; in others, farms used more than one method of harvesting, but the data obtained were for one method only.

Table 40. - Acreage of small grain harvested by specified methods on 395 Kansas farms, 1938 1/

Method of harvesting	Number of farms	Kind of grain harvested			Total
		"heat	Oats	Barley	
A. Acres harvested by specified methods					
Combine	363	2/	83,851	560	97
Binder-thresh	194	2/	3,581	2,751	145
Header-thresh	31	2/	2,234	0	10
All	390	3/	89,666	3,211	1,163
					252
					94,397
B. Percentage of total acreage harvested by specified methods					
Combine	93.1	4/	93.5	16.9	33.4
Binder-thresh	49.7	4/	4.0	83.1	21.9
Header-thresh	7.9	4/	2.5	—	34.7
					4.0
					100.0
					100.0

1/ See page 60.

2/ The five farms omitted did not harvest.

4/ Percentage of total farms harvesting part or all of their grain by this method.

Table 41. - Small grain harvesting practices on 395 Kansas farms, 1938, by counties 1/

County	Numbers of farms			Combine harvesting		
	Com-	bining	Binding	Heading	Threshing	Average : Man-days : Percentage of small grain acreage combined
	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
Barton	18	0	0	25	9	11.0
Gray	50	0	0	2	0	11.2
Harper	35	0	0	29	1	8.2
Logan 2/	20	0	7	17	3	10.7
Marion	4	3	0	47	0	11.7
Ottawa	20	6	0	19	1	11.8
Reno	8	0	0	27	0	9.8
Rooks 4/	26	4	5	16	3	11.5
All	181	13	12	182	17	10.8
						12.9
						10.1
						89.9

1/ See page 60.

2/ After heading or binding.

3/ Three farms in Logan County did not harvest.

4/ In Rooks County, 2 farms both bound and headed, but did not combine. Two farms did not harvest.

Table 42. - Relative use of specified sources of labor in harvesting small grains by specified methods on 395 Kansas farms in 1938 1/

Method of harvest	Type of labor				Total
	Originating on the farms 2/3/	Local hired harvest	Transient hired harvest	Total	
A. Man-days of labor					
Combine	3,773	2,413	1,885		8,071
Binder-thresh	1,993	735	410		3,138
Header-thresh	382	257	75		714
All	6,148	3,405	2,370		11,923
B. Percentages of total					
Combine	46.7	29.9	23.4		100.0
Binder-thresh	63.5	23.4	13.1		100.0
Header-thresh	53.5	36.0	10.5		100.0
All	51.6	28.5	19.9		100.0

1/ See page 60.

2/ Includes the labor of the farm operator, farm family members, regular hired labor, and exchange labor. Exchange labor may include a small amount of labor hired for the harvest only, but the data obtained did not allow calculation and exclusion of the time worked by such hired labor.

3/ The actual numbers of workers by classes were as follows:

Farm operators	351	(11.0 percent)
Farm family	193	(6.1 percent)
Regular hired	21	(0.7 percent)
Exchange labor	1,097	(34.4 percent)
Local hired harvest ^{1/}	1,073	(33.7 percent)
Transient hired		
harvest	451	(14.1 percent)
Total	3,186	

Table 43. - Chances in 1,000 of specified classes of labor holding certain jobs in the 1938 wheat harvest on the Kansas farms surveyed 1/

Job	: Farm		: Regular:		: Local		: Transient:		All
	: Farm	: family:	hired	: Exchange:	hired har-	vest labor:	labor	: labor	
Binder operator	170	32	114	23	23	14			51
Shocker	113	205	57	9	66	210			89
Bundle wagon driver	12	29	29	469	57	62			167
Field pitcher	1	9	0	32	110	97			55
Spike pitcher	17	58	29	87	119	45			75
Engineer	14	9	0	40	72	10			38
Separator operator	18	6	29	39	73	10			38
Engineer and separator operator	0	0	0	21	13	0			10
Grain hauler	58	26	57	50	14	8			34
Truck driver	176	158	228	103	108	211			138
Tractor operator	76	286	228	50	182	188			134
Combine operator	216	105	171	26	106	78			100
Tractor and combine operator	19	12	0	2	10	2			8
Header operator	22	6	0	6	3	0			7
Header bargeman	3	12	0	14	18	17			13
Stacking	46	32	29	13	16	27			24
Miscellaneous	39	15	29	16	10	21			19
Total jobs	1,000	1,000	1,000	1,000	1,000	1,000			1,000

1/ See page 60.

Table 44. - Percentage of specific jobs held by specific types of harvest labor, 1938,
on Kansas farms surveyed ^{1/}

J o b	By labor originating on the farm where the work was done			By exchange labor			By other hired labor			By all labor	
	Farm operator	Family labor	Regular hired labor	Local	Transient	By all labor					
			Percent	Percent	Percent	Percent	Percent	Percent			
Binder operator	63.0	5.5	2.0	13.0	13.0	3.5	3.5	100.0	100.0		
Shocker	24.0	20.0	.6	2.9	21.7	30.8	30.8	100.0	100.0		
Bundle wagon driver	1.4	1.5	.1	82.2	9.9	4.9	4.9	100.0	100.0		
Field pitcher	.5	1.4	.0	17.0	58.1	23.0	23.0	100.0	100.0		
Spike pitcher	4.4	6.8	.4	34.1	46.4	7.9	7.9	100.0	100.0		
Engineer	6.8	2.0	.0	31.3	56.5	3.4	3.4	100.0	100.0		
Separator operator	8.7	1.3	.7	30.0	56.0	3.3	3.3	100.0	100.0		
Engineer and separator operator	0.0	0.0	0.0	61.5	38.5	0.0	0.0	100.0	100.0		
Grain hauler	32.6	6.8	1.5	44.0	12.1	3.0	3.0	100.0	100.0		
Truck driver	23.9	10.0	1.5	21.7	22.8	20.1	20.1	100.0	100.0		
Tractor operator	10.7	18.7	1.5	10.9	39.7	18.5	18.5	100.0	100.0		
Combine operator	40.6	9.1	1.5	7.6	31.0	10.2	10.2	100.0	100.0		
Tractor and combine operator	43.8	12.5	0.0	6.2	34.4	3.1	3.1	100.0	100.0		
Header operator	55.2	6.9	0.0	24.1	13.8	0.0	0.0	100.0	100.0		
Header bargeman	3.8	7.7	0.0	30.8	40.4	17.3	17.3	100.0	100.0		
Stacking	36.6	11.8	1.1	16.1	19.4	15.0	15.0	100.0	100.0		
Miscellaneous	38.6	6.7	1.3	24.0	14.7	14.7	14.7	100.0	100.0		
All operations	18.8	8.7	.9	29.3	29.2	13.1	13.1	100.0	100.0		

^{1/} See page 60.

Table 45. Chances in 1,000 of specified classes of labor holding certain jobs in the wheat harvest on 1,500 survey farms, North Dakota, 1938

Job	Farm operator	Farm family labor	Regular labor	Exchange labor	Local hired labor	Transient harvest labor	All laborers
	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)
Binder operator	302	124	152	25	18	12	95
Shocker	140	297	208	29	75	252	138
Header operator	50	16	6	5	1	0	9
Header barge worker	4	31	21	9	1	0	8
Bundle wagon driver	32	131	148	537	538	541	365
Field pitcher	3	8	15	19	47	77	31
Spike pitcher	11	32	31	64	71	62	50
Engineer	12	9	10	12	35	2	18
Separator operator	20	5	15	22	38	4	22
Engineer and separator operator	52	27	25	65	59	5	46
Grain hauler	95	61	49	56	36	5	51
Truck driver	114	75	86	95	33	16	65
Tractor operator	110	134	153	35	24	12	62
Swather	8	11	16	5	5	4	7
Combine operator	43	21	43	14	11	3	20
Tractor and combine operator	7	3	4	2	1	1	3
Miscellaneous	17	15	18	6	7	4	10
Total	1,000	1,000	1,000	1,000	1,000	1,000	1,000

See page 60.

Table 46. Average numbers of harvest tasks held by certain types of labor in 1938 on Kansas farms surveyed

Type of worker	Jobs
	(Number)
Farm operator	2.1
Farm family labor	1.8
Regular hired labor	1.7
Exchange labor	1.0
Local hired harvest labor	1.1
Transient hired harvest labor	1.1

All labor 1.2

See page 60.